APPENDIX 5f
Remediation plan for Sample #67 area

Update to the Kittiwake Letter of Application from the Cayman Islands Department of Transportation, MARAD, dated November 5th, 2006
Updated January 23, 2008

May 1, 2007

This document is an update to the Kittiwake Reefing Plan and application to MARAD for the donation/transfer of a ship for artificial reefing purposes to the Cayman Islands.

Kittiwake Paint Test Results: Original Batch of 121 Samples
May 17, 2006
Universal Laboratories, Hampton, VA

Of the 121 paint samples that were taken on the Kittiwake from the above reference paint sampling batch, 106 of the samples show no Aroclor 1262 registered, 14 of the samples show Arcolor 1262 contents of acceptable limits of between 1.0 and 19.0ppm, with the majority in ranges of 1.0 to 3.0ppm.

One sample indicated a concentration level of 108ppm of Arcolor 1262. This is referred to Sample #67. The sample was taken on the overhead, main propulsion, lower starboard side B-204-E Frame 79. The sample was white paint. Of the 121 samples taken, there were a total of 35 samples that were white paint, with none of the other white paint samples showed any Arcolor 1262. Other white paint samples were taken from the fan room, interior bulkheads, shaft alley, diving bulkhead, recompression chamber and overhead, bulkhead in welding, forward bulkhead including distribution compressor, lower main engine room, air compressor room, lower storeroom, electronics storeroom, bosuns lockers, overhead above the generator sets, overhead main propulsion, sonar room and main propulsion room. All white paint, including sample #67 is common, standard Navy white paint (150 or 151).

There were 10 paint samples from the main propulsion area, 1 foot from the hot sample area, 5 feet from the hot sample area, 8 feet from the hot sample area, 15 feet from the hot sample area, and continuing from there. All paint was of like color paint, and all other samples came up negative, with the highest concentration of PCB being 19 ppm. This makes the one sample (#67) an exception. Photo documentation is available on all samples taken.

Kittiwake Paint Test results: Second Batch of 2 samples
April 10, 2007
Severn Trent STL, Pittsburg, PA

Due to the concentration of Arcolor 1262 found in Batch 1 sample #67, a second batch of paint samples were taken in the same vicinity as sample #67 was found. The results of both of these samples (001 and 002 - lab report attached) shows an even higher concentration level of Arcolor 1262 of 3,400,000 ug/kg (equivalent to 3,400ppm). This data would indicate that the original sample #67 was at the outskirts or edge of the contaminated area, and that the second batch of re-sampling has found the core of the contaminated area.

Proposed plan for remediation:

As these two most recent samples were just an expanded sampling of the same site as sample #67 from the original batch (enlarged sample), we have obviously sampled right into the real hot spot. Since we have already sampled all around this area, that being the overhead, main propulsion, lower starboard side B-204-E Frame 79 and surrounding area, we know that the area is very limited in size. The following is a list of other paint samples that were taken in the vicinity of Sample #67, in the original batch of 121 paint samples:

Paint Samples in proximity to sample #67:

67, overhead frame, above oily waste transfer pump, starboard side of engine room

#116, 3’ forward of #67, on the same overhead frame

#113, 4’ below and aft of #67, on towing machine motor generator (MG) frame

#69, 11’ aft and inboard, sample on aft bulkhead of engine room

#112, 7’ forward and below #67, on horizontal frame

#68, starboard base of reduction gear, 12’ to the port of, and below, sample #67

#65, 9’ forward of #67 on fire main

#111, overhead frame, forward and to the port side, 11’ from #67

#114, port side overhead frame to match #67, but on the opposite side of the engine room

#70, base of generator, next deck up (above site #67), 5’ forward

#118, next deck up, forward bulkhead, starboard side

As noted above, the type and color of paint (white) that was sampled is the typical paint used throughout the ship, and there were not any other concentrations of Arcolor 1262 pcb's in the white or any other color paint. This would indicate that it is an isolated hot spot and we would speculate that this contamination was most likely caused by some form of leaching of something that has since been removed, rather than being inherent in the original paint itself. We speculate, as an educated guess, that there was something on the deck above, that would have dripped down and pooled on the beam from above as it is not a sealed deck above. The other probability would be the piping right next to the contaminated area. There is a union (a fitting that connects two pieces of pipe together) right next to the hot area, that could have been spraying or leaking onto the beam. Also, there is an older generator (3-268A Cleveland) that were notoriously leaky that is in parts on the deck above, which could have been a potential contamination source for the beam below. We sampled the paint directly adjacent to the generator and found no contamination that exists at this time. We offer this dialogue as potential causes for the contamination area.

Our remediation plan is to remove all metal and paint (everything) from the affected area, instead of just removing the paint. The effected area is in the engine room, on the underside of the deck, between the upper and lower engine room. The area is on the starboard side within the watertight space, but does not make up any part of the watertight shell, and removing the steel from this area would simply be a diver penetration or access and not affect the ship's water-tight integrity for towage or sinking. We have sampled the affected paint area until a clean or non-contaminated area in a 360 degree circumference of the contaminated area is found. We will remove all paint in this area making a clean margin, and then using a plasma cutter, we will cut out the metals and steel and dispose of the paint and steel as PCB contaminated materials.

Following remediation, Environmental Profiles (EPI) will perform the third party inspection, re-sampling and reporting on the effectiveness of the remediation plan.

Copies of all future lab analysis from the above paint sampling will be provided to the CI DOE, MARAD and the US EPA.

Yours truly;
Cayman Islands Tourism Association (CITA)

Nancy Easterbrook
Kittiwake Project Manager

1 345 946-5658

Kittiwake Paint Sample #67 – PCB Contamination area on the overhead

APPENDIX 5g
Trent Severn Lab reports on April 2007 paint samples

SEVERN TRENT STL

STL Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

Tel: 412 963 7058 Fax: 412 963 2468
www.stl-inc.com

ANALYTICAL REPORT

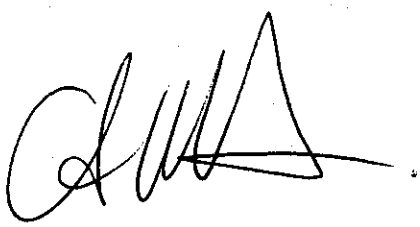
Kittiwake

Lot #: C7D070160

Tim Mullane

Dominion Marine Group
Box 152
Chincoteague, VA 23336

SEVERN TRENT LABORATORIES, INC.



Christina M. Kovitch
Project Manager

April 10, 2007

SEVERN TRENT STL

ACCREDITED IN ACCORDANCE WITH nelac

NELAC REPORTING:

The format and content of the attached report meets NELAC standards and guidelines except as noted in the narrative. The table below presents a summary of the certifications held by STL Pittsburgh. Our primary accreditation authority for the Non-potable water and Solid & Hazardous waste programs is Pennsylvania DEP. A more detailed parameter list is available upon request. Please ask your project manager for this information when required.

Certifying State/Program	Certificate #	Program Types	STL Pittsburgh
NFESC	NA	NAVY	X
USACE	NA	Corps of Engineers	X
US Dept of Agriculture	(#S-46425)	Foreign Soil Import Permit	X
Arkansas	(#03-022-1)	WW HW	X X
California – nelac	04224CA	WW HW	X X
Connecticut	(#PH-0688)	WW HW	X X
Florida – nelac	(#E87660)	WW HW	X X
Illinois – nelac	(#200005)	WW HW	X X
Kansas – nelac	(#E-10350)	WW HW	X X
Louisiana – nelac	(#93200)	WW HW	X X
New Hampshire – nelac	(#203002)	WW --	X --
New Jersey – nelac	(PA-005)	WW HW	X X
New York – nelac	(#11182)	WW HW	X X
North Carolina	(#434)	WW HW	X X
Ohio Vap	(#CL0063)	WW HW	X X
Pennsylvania - nelac	(#02-00416)	WW HW	X X
South Carolina	(#89014001)	WW HW	X X
Utah – nelac	(STLP)	WW HW	X X
West Virginia	(#142)	WW HW	X X
Wisconsin	998027800	WW HW	X X

The codes utilized for program types are described below:

HW	Hazardous Waste certification
WW	Non-potable Water and/or Wastewater certification
X	Laboratory has some form of certification under the specific program. Many states certify laboratories for specific parameters or tests within a category. The information in the table indicates the lab is certified in a general category of testing. Please contact the laboratory if parameter specific certification information is required.

Updated: 04/27/06

CASE NARRATIVE

Kittiwake

STL LOT #: C7D070160

Shipment:
Samples were received at STL Pittsburgh on April 7, 2007. The cooler was received within the proper temperature range.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

PCBs:
Due to the concentration of AR1262 detected, the samples were analyzed at a dilution. The samples had the surrogates diluted out.

METHODS SUMMARY

C7D070160

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
PCBs by SW-846 8082	SW846 8082	SW846 3541

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

C7D070160

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JTJ27	001	67A	04/06/07	10:51
JTJ28	002	67B	04/06/07	10:51

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

C7D070160

Chain of Custody Record

SEVERN TRENT **STL®**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: DOMINION MARINE CREW	Project Manager: TIM MULLANE	Date: 4/6/07	Chain of Custody Number: 288607
Address: BOX 152	Telephone Number (Area Code)/Fax Number: 757 544 5614	Lab Number:	Page 1 of 1
City: CHINCOTEAGUE / State: VA / Zip Code: 23336	Site Contact:	Lab Contact:	
Project Name and Location (State): KITTIWAKE	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: PCB	Special Instructions/ Conditions of Receipt
67 A	4/6/07	10:51				X	X						X	SOXLET 8082
67 B	4/6/07	10:51				X	X						X	SOXLET 8082

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other ASAP

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: TIM MULLANE	4/6/07	10:51	1. Received By: Amelia Kennedy	4/6/07	1051
2. Relinquished By: Amelia Kennedy	4/6/07	1600	2. Received By:		
3. Relinquished By:			3. Received By: Patrick R Sauer	4/7/07	0940

Comments: EMAIL RESULTS PLEASE TMULLANE@DOMINIONMARINE.NET

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Cash in Advance / Prepaid Sales

Client Sample ID: 67A

GC Semivolatiles

Lot-Sample #...:	C7D070160-001	**Work Order #...:**	JTJ271AA	**Matrix.....:**	SOLID
Date Sampled...:	04/06/07	**Date Received..:**	04/07/07	**MS Run #.....:**	
Prep Date.....:	04/09/07	**Analysis Date..:**	04/10/07		
Prep Batch #...:	7099011	**Analysis Time..:**	07:52		
Dilution Factor:	2000				
% Moisture.....:		**Method.....:**	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	33000	ug/kg
Aroclor 1221	ND	33000	ug/kg
Aroclor 1232	ND	33000	ug/kg
Aroclor 1242	ND	33000	ug/kg
Aroclor 1248	ND	33000	ug/kg
Aroclor 1254	ND	33000	ug/kg
Aroclor 1260	ND	33000	ug/kg
Aroclor 1262	**3400000**	**33000**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	NC,DIL	(31 - 127)
Decachlorobiphenyl	NC,DIL	(23 - 141)

NOTE(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Cash in Advance / Prepaid Sales

Client Sample ID: 67B

GC Semivolatiles

Lot-Sample #...:	C7D070160-002	**Work Order #...:**	JTJ281AA	**Matrix.....:**	SOLID
Date Sampled...:	04/06/07	**Date Received..:**	04/07/07	**MS Run #.....:**	
Prep Date.....:	04/09/07	**Analysis Date..:**	04/10/07		
Prep Batch #...:	7099011	**Analysis Time..:**	08:15		
Dilution Factor:	2000				
% Moisture.....:		**Method.....:**	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	33000	ug/kg
Aroclor 1221	ND	33000	ug/kg
Aroclor 1232	ND	33000	ug/kg
Aroclor 1242	ND	33000	ug/kg
Aroclor 1248	ND	33000	ug/kg
Aroclor 1254	ND	33000	ug/kg
Aroclor 1260	ND	33000	ug/kg
Aroclor 1262	**3400000**	**33000**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	NC,DIL	(31 - 127)
Decachlorobiphenyl	NC,DIL	(23 - 141)

NOTE(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: C7D070160 **Work Order #...:** JTJ7F1AA **Matrix.....:** SOLID
MB Lot-Sample #: C7D090000-011

Prep Date.....: 04/09/07 **Analysis Time..:** 08:38
Analysis Date..: 04/10/07 **Prep Batch #...:** 7099011
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	17	ug/kg	SW846 8082
Aroclor 1221	ND	17	ug/kg	SW846 8082
Aroclor 1232	ND	17	ug/kg	SW846 8082
Aroclor 1242	ND	17	ug/kg	SW846 8082
Aroclor 1248	ND	17	ug/kg	SW846 8082
Aroclor 1254	ND	17	ug/kg	SW846 8082
Aroclor 1260	ND	17	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	93	(31 - 127)
Decachlorobiphenyl	94	(23 - 141)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C7D070160 **Work Order #...:** JTJ7F1AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: C7D090000-011 JTJ7F1AD-LCSD
Prep Date.....: 04/09/07 **Analysis Date..:** 04/09/07
Prep Batch #...: 7099011 **Analysis Time..:** 16:45
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**81**	**(55 - 117)**			**SW846 8082**
	84	**(55 - 117)**	**4.4**	**(0-35)**	**SW846 8082**
Aroclor 1260	**86**	**(54 - 117)**			**SW846 8082**
	89	**(54 - 117)**	**3.1**	**(0-29)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	81	(31 - 127)
	86	(31 - 127)
Decachlorobiphenyl	96	(23 - 141)
	93	(23 - 141)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

APPENDIX 5h
Photo of second sample site near original sample #67

The blue tape shows sample #67 from first batch of samples. The second sample site was just extended for the two confirmatory samples.